WHAT IS CLAIMED IS:

1. A glass product comprising an alkali or alkali earth metal silicate glass, said glass product having high optical clarity and comprising at least one surface comprising:

a plurality of islands extending across said surface of said glass at a density of about 60 to about 10,000 islands per square millimeter and each island being between about 10 to about 200 micrometers in diameter and said islands extending across said entire surface of said glass in such a distribution that said islands contribute to providing decreaseed reflectance of incident light across said surface of said glass;

a skeletized silica structure extending uniformly over the surface of the glass, including the islands, said skeletized structure is about 100 to about 400 angstroms and having openings of about 100 to about 200 angstroms uniformly distributed throughout, the density of said skeletized structure is about 50 to about 70 per 200 nanometers square;

the product having low reflectance of incident light.

2. The glass of claim 1, wherein said islands are disposed on said glass surface at a density of about 250 to about 600 islands per square millimeter of said glass surface.

3. The glass of claim 1, wherein said product comprises a plane sheet.

4. The glass of claim 1, wherein said product comprises a curved sheet.

5. A method for producing a low reflectance, high clarity glass comprising the steps of:

(a) providing a glass member, comprising one or more light-reflecting surfaces;

(b) exposing at least one surface of said glass member to an acid solution to remove a weathered layer;

(c) rinsing said glass member in a neutral solution;

(d) dipping said glass member in an aqueous solution comprising a strong fluoride ion agent, a weak fluoride ion agent and a moderator, for a time period and at a solution temperature sufficient to produce islands on said glass surface being treated, said islands distributed at a density of about 60 to about 10,000 islands per square millimeter;

(e) rinsing said glass with a cleansing solution;

(f) steps (a)-(e) subsequently producing a diffusion etched surface from said exposed surface of said glass member;

(g) immersing said diffusion etched surface in an anti-reflection acid solution; and

(h) rinsing said glass.

6. The method of claim 5, wherein said diffusion etched surface is contacted with an anti-reflection acid solution for a time sufficient to produce a skeletal silica structure of about 100 to about 400 angstroms and having openings from about 100 to about 200 angstroms uniformly on the glass surface.

7. The method of claim 5, wherein said acid solution comprises a 0.5 to 12% by weight of an aqueous acid solution.

8. The method of claim 7, wherein said acid solution comprises about 2 to about 4% by weight hydrofluoric acid.

9. The method of claim 5, wherein said strong fluoride ion agent comprises hydrogen fluoride.

10. The method of claim 5, wherein said weak fluoride ion agent is selected from the group consisting of ammonium bifluoride, ammonium fluoride, or a combination thereof.

11. The method of claim 5, wherein said moderator comprises a water soluble composition having the formula $C_lH_mO_n$ where 1 is an integer from 2-12, m is an integer from 4-26 and n is an integer from 2-12, this compound including from 1 to 12 hydroxy groups, or "--OR" groups where R equals C_kH_{2k+1}, and k is any integer .

12. The method of claim 11, wherein said moderator is selected from the group consisting of sucrose, glucose, xylose, ethylene glycol, glycerol, diethylene glycol dimethyl ether, diethylene glycol diethyl ether, diethylene glycol monobutyl ether, and diethylene glycol monoethyl ether.

13. The method of claim 11, wherein said moderator comprises sorbitol.

14. The method of claim 5, wherein said aqueous solution comprises hydrogen fluoride, ammonium bifluoride and sorbitol.

15. The method of claim 14, wherein said aqueous solution comprises about 30 to about 550 milliliters per liter of 70% hydrofluoric acid, about 30 to about 250 grams per liter of ammonium bifluoride, and about 250 to about 850 grams per liter of sorbitol.

16. The method of claim 5, wherein step (d) is performed more then once.

17. The method of claim 5, wherein steps (d) and (e) are performed more then once.

18. The method of claim 5, wherein said anti-reflection acid solution comprises hydrated silica dissolved in an acid from the group consisting of hydrogen fluoride, fluorosilicic acid, H_2SO_4, HCl, HNO_3, H_3PO_4 or salts thereof;

a fluoride ion agent therein; and

a potency adjusting composition in an amount effective to provide an optimum etching potency.

19. The method of claim 18, wherein said anti-reflective acid solution comprises:

about 15% by weight fluorosilicic acid;

about 6.5 to about 15 grams of hydrated silica per liter of anti-reflective acid solution; and

a potency adjusting composition in an amount effective to provide optimum etching potency.

20. The method of claim 18, wherein said potency adjusting compound comprising a fluoride ion contributor or a fluoride ion sequestering agent.

21. The method of claim 20, wherein said fluoride ion contributor comprising a hydrofluoric acid or fluorine salt.

22. The method of claim 20, wherein said fluoride ion sequestering agent comprising boric acid.

23. The method of claim 16, wherein said glass is contacted with said aqueous solution at temperatures from about 0 to about 35° C for about 15 seconds to about 25 minutes.

24. The method of claim 23, wherein said glass is contacted with said aqueous solution at 20°C for 30 seconds.

25. The method of claim 19, wherein said diffusion etched surface is immersed in said anti-reflective acid solution at temperatures from about 25 to about 80° C for about 35 to about 70 minutes.

26. The method of claim 19, wherein said diffusion etched surface is immersed in said anti-reflective acid solution at 44°C for 46 minutes.

27. The method of claim 5, further comprising the step, subsequent to step (a), of removing contaminants from said glass member.

28. The method of claim 5, wherein said neutral solution comprises water.

29. The method of claim 5, wherein said cleansing solution comprises water.

30. The method of claim 5, further comprising the step of neutralizing said anti-reflection acid solution.

31. A glass product comprising an alkali or alkali earth metal silicate glass, said glass product having high optical clarity and comprising at least one surface comprising:

a plurality of islands extending across said surface of said glass, each island being between about 10 to about 200 micrometers in diameter; and

said islands extending across said entire surface of said glass in such a distribution that said islands contribute to providing decreased reflectance of incident light across said surface of said glass,

a skeletized silica structure extending uniformly over the surface of said glass, including said islands, said skeletized structure is about 100 to about 400 angstroms and having openings of about 100 to about 200 angstroms uniformly distributed throughout; and

said product having low reflectance of incident light.

32. A method for producing a low reflectance, high clarity glass comprising the steps of:

(a) providing a glass member, comprising one or more light-reflecting surfaces;

(b) exposing at least one surface of said glass member to an acid solution to remove a weathered layer;

(c) rinsing said glass member in a neutral solution;

(d) treating said glass member with a diffusion etching solution comprising a strong fluoride ion agent, a weak fluoride ion agent and a moderator, for a time period and at a solution temperature sufficient to produce islands on said glass surface being treated, said islands distributed at a density of about 60 to about 10,000 islands per square millimeter; each island being between about 10 to about 200 micrometers in diameter, the islands extending across the entire surface of said glass in such a distribution that the islands contribute to providing decreased reflectance of incidnet light across the surface of the glass;

(e) cleaning said treated glass member;

(f) treating said treated glass member with an anti-reflection acid solution for a time sufficient to produce a skeletonized silicon structure extending uniformly over the surface of said glass, including said islands, said skeletonized structure is about 100 to about 400 angstroms and having openings of about 100 to about 200 angstroms uniformly distributed throughout.